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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/613,620      | 07/03/2003  | David C. Fairbourn   | MTCL / 09           | 4378             |

26875 7590 05/11/2007  
WOOD, HERRON & EVANS, LLP  
2700 CAREW TOWER  
441 VINE STREET  
CINCINNATI, OH 45202

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| EXAMINER |
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CHEN, BRET P

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| ART UNIT | PAPER NUMBER |
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1762

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| MAIL DATE | DELIVERY MODE |
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05/11/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                               |                                     |  |
|------------------------------|-------------------------------|-------------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/613,620 | Applicant(s)<br>FAIRBOURN, DAVID C. |  |
|                              | Examiner<br>B. Chen           | Art Unit<br>1762                    |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 March 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 24-30, 34-37 and 44-62 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 24-30, 34-37 and 44-62 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

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### **DETAILED ACTION**

Claims 24-30, 32-37, and 44-62 are pending in this application. Amended claims Claims 24-30, 34-37, 44-57 and newly added claims 58-62 are noted.

The amendment dated 1/12/07 and 3/26/07 has been entered and carefully considered. The examiner appreciates the amendments to the claims. In view of said amendment, the previous art rejection has been withdrawn.

Claims 32-33 are withdrawn from consideration as being directed to a nonelected invention.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 24-30, 34-37, and 44-62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 24, the term "simple chemical vapor deposition" is a relative term which renders the claim indefinite. The term "simple" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The same issue applies to claims 25-30, 34-37, and 44-62.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

**Claims 24-30, 34-37, and 44-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vakil (5,902,638).** Vakil discloses a method for producing on the surface of a nickel- or cobalt-based superalloy article a spallation-resistant aluminum oxide layer by chemical vapor deposition at low temperatures on a metal aluminide layer that has been deposited on the surface of a nickel- or cobalt-based superalloy substrate (col.1 line 58 – col.2 line 1). Specifically, the metal aluminide layer, also known as a diffusion coating, is produced on the superalloy surface by reacting aluminum vapor, aluminum-rich alloy powder or aluminum-rich compound with the substrate elements, such as nickel or cobalt, in the surface layer of the underlying superalloy substrate (col.2 lines 38-48) and can be done by chemical vapor deposition (col.2 lines 49-62). In an embodiment, other elements including platinum, silicon, hafnium and oxide particles can be incorporated in the aluminide layer by a variety of processes such as CVD and can be added to the surface of the component prior to aluminiding (col.3 lines 12-25). The superalloy article can be a gas turbine engine and can be heated (col.2 line 63 – col.3 line 4) and the precursor can be aluminum halide (col.2 lines 65-66). No carrier gas to transport the metal to the chamber is disclosed. However, the reference fails to teach a jet engine component.

It is noted that Vakil is directed to a gas turbine engine in propulsion and power generation industries. One skilled in the art would know that jet engines are utilized in the propulsion industry. It would have been obvious to utilize a jet engine in Vakil's process with

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the expectation of success given the teaching that jet engines and gas turbine engines are utilized in propulsion situations.

The limitations of claims 25-30, 34-37, and 44-62 have been addressed above.

***Response to Arguments***

Applicant's arguments with respect to the claims above have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

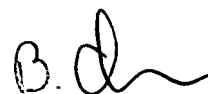
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to B. Chen whose telephone number is (571) 272-1417. The examiner can normally be reached on 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Bc  
5/10/07

A handwritten signature in black ink, appearing to read 'B. Chen', with a stylized flourish at the end.

**BRET CHEN**  
**PRIMARY EXAMINER**